Argument to the International Search Opinion

(Formal response to the written opinion of the International Searching Authority)

TO: Examiner of the European Patent Office as an International Preliminary Examining Authority

1. Identification of the International Application
   PCT/JP2004/008686

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4. Argument

(1) In the Written Opinion of the International Searching Authority, the Examiner has pointed out the lack of novelty with regard to the subject matter of independent claims 1 and 10 in this application over cited reference D1 (EP0983894A). We, however, believe that the subject matter of independent claims 1 and 10 in this application is not at all explicitly or even implicitly described in the cited reference D1, as explained below. The Examiner has also pointed out the unclearness of claims 1 to 6 and claims 10 to 13. We, however, believe that claims 1 to 6 and claims 10 to 13 in this application are sufficiently clear, as explained below.

(2) Comparison between Invention of This Application and Cited Reference D1

Both independent claims 1 and 10 of this application regard drive controls under no setting a target vehicle speed for a constant speed drive and under setting of the target vehicle speed for the constant speed drive. In the event of no setting the target vehicle speed for the constant speed drive, the drive control of this application refers to a non-linear setting map to set a vehicle driving force and controls the motor and the internal combustion engine to attain the set vehicle driving force. In the event of setting the target vehicle speed for the constant speed drive, the drive control of this application sets the vehicle driving force to have a higher linearity with respect to at least part of a non-linear portion of the non-linear setting map and controls the motor and the internal combustion engine to attain the set vehicle driving force. The system of the cited reference D1, on the other hand, controls the vehicle speed to simply attain a target vehicle speed corresponding to the position of an accelerator pedal 30 set by the driver's operation. The cited reference D1 has neither description nor suggestion about the technique of setting a target vehicle speed for a constant speed drive and controlling the vehicle speed to attain the target vehicle speed

for the constant speed drive. The technique described in independent claims 1 and 10 of this application sets the target vehicle speed for the constant speed drive and furthermore changes over the procedure of setting the vehicle driving force corresponding to the presence or the absence of setting of the target vehicle speed. The cited reference D1 does not mention even setting of the target vehicle speed for the constant speed drive. We thus believe that both independent claims 1 and 10 have sufficient novelty over the cited reference D1.

(3) Clear Description of Invention in This Application

According to independent claim 1 of this application, (A) in the case of no setting a target vehicle speed for a constant speed drive, the drive control module (A1) sets a vehicle drive command value in response to the driver's accelerator step-on action, (A2) refers to a non-linear setting map to set a vehicle driving force corresponding to the vehicle drive command value, and (A3) drives and controls the motor and the internal combustion engine to drive the hybrid vehicle with the setting of the vehicle driving force. (B) In the case of setting the target vehicle speed for the constant speed drive, the drive control module (B1) sets the vehicle drive command value, based on the vehicle speed measured by the vehicle speed sensor and the target vehicle speed, to drive the vehicle at the target vehicle speed, (B2) sets the vehicle driving force corresponding to the vehicle drive command value, in order to have a higher linearity than that of the vehicle driving force set by a non-linear portion of the non-linear setting map with respect to at least part of the vehicle drive command value equivalent to the non-linear portion, and (B3) drives and controls the motor and the internal combustion engine to drive the hybrid vehicle with the setting of the vehicle driving force. This technique changes over the procedure of drive control between (A) the case of no setting the target vehicle speed for the constant speed drive and (B) the case of setting the target vehicle speed for the constant speed drive. In the Written

Opinion of the International Searching Authority, the unclearness objection is directed to the step (B2). The step (B2) sets the vehicle driving force to have a higher linearity with respect to at least part of a non-linear portion of the non-linear setting map, compared with the vehicle driving force set by the non-linear portion of the non-linear setting map. The description sets the non-linear portion of the non-linear setting map as the object of comparison, in order to elucidate the characteristics of the invention. This point is clearly understandable by the careful examination. We thus believe that claim 1 of this application is sufficiently clear. This discussion applies mutatis mutandis to claim 10.

Claim 2 of this application clearly describes that the non-linear setting map is divided into three zones, that is, a negative zone, a dead zone that is kept substantially equal to 0, and a positive zone. Claim 3 of this application clearly describes that both the negative zone and the positive zone have linear increases of the vehicle driving force. The description of claim 11 of this application is as clear as the description of claims 2 and 3.

Claim 4 of this application clearly describes that the drive control module uses a linear setting map, which has a higher linearity than the non-linear setting map, to set the vehicle driving force in the step (B2). Claim 5 of this application clearly describes that the non-linear setting map is divided into three zones, that is, a negative zone, a dead zone that is kept substantially equal to 0, and a positive zone as in claim 2, and that the negative zone of the linear setting map is greater than the negative zone of the non-linear setting map. Claim 6 of this application clearly describes that both the negative zone and the positive zone have linear increases of the vehicle driving force as in claim 3. The description of claims 12 and 13 is as clear as the description of claims 4 to 6.

As described above, we believe that all claims 1 to 6 and claims 10 to 13 are sufficiently clear.